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# Accepted Manuscript

Challenges in researching violence affecting health service delivery in complex security environments

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**Cover page****Title**

Challenges in researching violence affecting health service delivery in complex security environments

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**Abstract and keywords****Abstract**

Complex security environments are characterized by violence (including, but not limited to “armed conflict” in the legal sense), poverty, environmental disasters and poor governance. Violence directly affecting health service delivery in complex security environments includes attacks on individuals (e.g. doctors, nurses, administrators, security guards, ambulance drivers and translators), obstructions (e.g. ambulances being stopped at checkpoints), discrimination (e.g. staff being pressured to treat one patient instead of another), attacks on and misappropriation of health facilities and property (e.g. vandalism, theft and ambulance theft by armed groups), and the criminalization of health workers. This paper examines the challenges associated with researching the context, scope and nature of violence directly affecting health service delivery in these environments. With a focus on data collection, it considers how these challenges affect researchers’ ability to analyze the drivers of violence and impact of violence.

This paper presents key findings from two research workshops organized in 2014 and 2015 which convened researchers and practitioners in the fields of health and humanitarian aid delivery and policy, and draws upon an analysis of organizational efforts to address violence affecting healthcare delivery and eleven in-depth interviews with representatives of organizations working in complex security environments.

Despite the urgency and impact of violence affecting healthcare delivery, there is an overall lack of research that is of health-specific, publically accessible and comparable, as well as a lack of gender-disaggregated data, data on perpetrator

motives and an assessment of the ‘knock-on’ effects of violence. These gaps limit analysis and, by extension, the ability of organizations operating in complex security environments to effectively manage the security of their staff and facilities and to deliver health services. Increased research collaboration among aid organizations, researchers and multilateral organizations, such as the WHO, is needed to address these challenges.

### **Keywords**

Healthcare

Violence

Conflict

Humanitarian

Gender

Emergency

### **Research highlights**

- Violence affecting health service delivery is a serious challenge
- There are significant research gaps on the issue in complex security environments
- Comparative research is difficult as organizations have their own reporting schemes
- There is a lack of gender-sensitive information on the issue
- There is a lack of data on the motives of perpetrators

## **Main text**

### **Introduction**

Violence directly affecting healthcare delivery in complex security environments includes attacks on individuals (e.g. doctors, nurses, administrators, security guards, ambulance drivers and translators), including murder, kidnapping, robbery and threats), obstructions (e.g. ambulances being stopped at checkpoints), discrimination (e.g. staff being pressured to treat one patient instead of another), attacks on and misappropriation of health facilities and property, (e.g. vandalism, theft and ambulance theft by armed groups), and the criminalization of health workers (Fast, 2014; International Committee of the Red Cross, 2013; Abu Sa'Da, C., Duroch, F. & Taithe, B., 2013).

The term 'complex security environment' is used here to broadly refer to humanitarian and crisis settings and situations of civil unrest. In these environments, which are characterized by violence – including, but not limited to “armed conflict” in the legal sense –, poverty, environmental disasters and poor governance (Irwin, 2014), the impact of such violence on health services is particularly pronounced. For example, in August 2013, following a series of violent attacks against its staff, Médecins Sans Frontières (MSF) closed all its programs in Somalia. In the eight months leading up to the closure, MSF provided over 300,000 patients with outpatient consultations, treated 15,600 patients in feeding centers and administered 28,600 routine vaccinations (MSF, 2014).

Although there is a large body of research on the issue in stable and peaceful environments, the evidence base in complex security environments is substantially

smaller. There have been calls for more routine data collection and increased research (Gray & Ockelford, 2011; Nickerson 2015; Adil, M., Johnstone, P., Furber, A., Siddiqi, K., & Khan, D., 2013), including increased assessment of 'knock-on effects,' including those denied access, challenges recruiting and retaining health workers, as well as the financial implications for organizations (Coupland, 2013, Centre for Public Health And Human Rights, 2013). The issue has also been raised at a political level. For instance, in December 2014, it was highlighted in two United Nations General Assembly (UNGA) resolutions: 69/132 on Global Health and foreign policy and 69/133 on the safety and security of humanitarian personnel and protection of United Nations personnel (UNGA, 2014a; UNGA, 2014b). Yet despite global attention, significant knowledge gaps remain.

This short report examines the challenges associated with researching the context, scope and nature of violence directly affecting health service delivery in complex security environments. With a focus on data collection and analysis, it considers these challenges, as well as ethical issues in research. Despite the urgency and impact of violence affecting health service delivery, there is an overall lack of research that is of health-specific, publically accessible and comparable, as well as a lack of gender-disaggregated data and data on perpetrators motives. There is also a need for further assessment of the impact of violence, both on facilities and organizations, and also on populations served. These knowledge gaps have serious implications for the way the drivers of violence are understood and, by extension, the ability of organizations operating in complex security environments ability to effectively manage the security of their staff and facilities in order to deliver healthcare.

## Methods

This short report is based on a review of public health literature and initiatives by organizations working in complex security environments, discussions from two research workshops and eleven in-depth expert interviews. The research was carried out during 2014 and 2015.

### *Literature review*

A keyword search was carried out in PubMed looking at all dates (through July 2015), using the terms: ‘violence against doctors’; ‘violence against nurses’; ‘humanitarian violence’; ‘workplace violence’; ‘armed conflict violence’; and ‘polio violence’. These articles were initially screened to exclude those focusing solely on stable and peaceful countries and regions not experiencing armed conflict, a humanitarian emergency or civil unrest. For example, most articles about workplace violence in Turkey were excluded, but an article about violence against health professionals in Turkey during the 2013 Gezi protests was included (Aciksoz, 2015). After the initial screening a citation search was conducted to identify further articles containing original research.

In addition to the academic literature, a review of organizational research and advocacy efforts was conducted (c.f. Irwin, 2014). This review included publically available documentation and research from the International Committee of the Red Cross’s (ICRC) HealthCare in Danger Project (ICRC, n.d.), Médecins Sans Frontières’ (MSF) Medical Care Under Fire (MCUF) project (MSF, n.d.), and Safeguarding Health in Conflict, a coalition of NGOs formed in 2012 that includes a number of human rights organizations, such as Human Rights Watch and Physicians for Human Rights (Safeguarding Health in Conflict, n.d.; Amon, J., Collure, A., Clouse, E.,



Rubenstein, L., & Baker, E., 2015), and the World Health Organization among others. The review also examined Humanitarian Outcome's Aid Worker Security Database, which documents major incidents of violence against aid workers (Humanitarian Outcomes, n.d.). Finally, the authors reviewed media reporting with a focus on coverage by international humanitarian and development media outlets such as IRIN news and Devex. Throughout the analysis emphasis was placed on the methodological and ethical challenges to researching violence against healthcare workers, facilities and transportation in complex security environments and communicating findings.

#### *Research workshops*

In November 2014 the Stockholm International Peace Research Institute (SIPRI) in collaboration with the Swedish Red Cross convened twenty-one researchers and practitioners in the fields of health and humanitarian aid and policy, including participants from the Norwegian Red Cross, the Kroc Institute for International Peace Studies, the ICRC, Humanitarian Policy Group (Overseas Development Institute), the Fafo Foundation, MSF – Sweden, Humanitarian Outcomes, the Swedish branch of the International Federation of Medical Students' Association (IFMSA), the Department of Peace and Conflict Research at Uppsala University and Ushahidi. In December 2015 SIPRI, the Health Research Group at King's College, London and Royal Society of Medicine's Catastrophes and Conflict Forum convened a second workshop with thirteen representatives from Médecins Sans Frontières, University of Sussex, the London School of Hygiene and Tropical Medicine, ICRC, Medical Aid for Palestinians, University of Cambridge, the Picker Institute and the Karolinska Institute. Participants brought a range of experience and perspectives: advocacy, communication, operations and academic research. Academic disciplines represented

included anthropology, International Relations, law, medicine, politics and surgery. Participants had a range of geographic experience, mainly in the Middle East and North Africa, sub-Saharan Africa and Europe.

The half-day research workshops functioned as de facto focus groups in which participants were asked to consider a series of questions on methodological, theoretical and ethical challenges to researching violence affecting health service delivery in complex security environments. The workshops were held under rule that no statements are attributed to individuals.

#### *Expert interviews*

Semi-structured expert interviews with eleven representatives of organizations and agencies involved in health-related operations in the humanitarian crises were conducted. Participants were recruited and selected through purposeful sampling based on their involvement in humanitarian advising, security issues, field staff recruitment, field personnel matters and/or the coordination of medical missions. Interviews were conducted both in-person and by Skype, and included staff from headquarters and country-level offices.

The interview questions covered operational decisions to exit or enter insecure environments, the effects of violence and threats, recruitment and staff retention, use of local and national staff and the financial impacts of violence. Participants were explicitly asked about trends and shifts in the humanitarian landscape and research challenges related to data collection on the scope, nature and impact of violence directly affecting health service delivery in complex security environments.

### **Challenges in data collection and analysis**

Although violence directly affecting health service delivery in complex security environments has received a great deal of media attention, there is very little publically available research, particularly peer-reviewed, original research. Only thirty-eight articles met the original search criteria outlined in the methods section, of which only eleven contained original research; a further citation search yielded another four original research articles. The remainder was comprised of review articles, commentaries, letters, or analysis based on secondary sources.

While not a comprehensive review, the findings of this research are similar to those described in a 2013 systematic review funded by the United Kingdom's Department for International Development (Difd) and the Wellcome Trust (Blanchet, K., Sistenich, V., Ramesh, A., Frison, S., Warren, E., Hossain, M. ... Roberts, B., 2015).). Although that research team had a slightly different research orientation, focusing on the security of health workers in relation to public health interventions in humanitarian crises, they found only 16 research papers in period 1980-2013.

The lack of peer-reviewed, academic literature is not surprising. In general, public health literature on humanitarian crises mainly consists of news articles, commentaries, professional newsletters, editorials and campaigns by professional bodies (Blanchet et al., 2015). Participants in both workshops stressed the practical barriers to conducting academic research in complex security environments due to the inherently dangerous nature of the research. These include obtaining insurance coverage and institutional approval, as well as difficulties with logistics (Blanchet et al., 2015). Particularly with regard to violence affecting the delivery of health

services, there are situations in which researchers would be collecting data on government actors as perpetrators of violence.

Research participants also stressed that funding research in humanitarian crises is also difficult, as current academic schemes are not adequate. For instance, academic funders may be adverse to funding research in crises due to the risks outlined above. Additionally, many academic funders have requirements that all participants in a project have a doctoral degree, which limits the extent to which academic researchers and staff from non-governmental organizations (NGO) and multilateral organizations can collaborate, as many individuals outside of academia do not have doctoral degrees.

However, a lack of peer-reviewed, academic research does not indicate a lack of data or knowledge. For example, there is relatively little original academic research on attacks on polio workers in Pakistan and Nigeria, yet these have been comprehensively documented in mainstream and specialist media, in commentaries and editorials, and in medical and public health journals (cf. Arie, 2013; Riaz & Rehman, 2012). Human rights organizations have also been invaluable in reporting violence against health workers and facilities (Amon, J. et al., 2015), particularly in areas off-limits to most academic researchers, such as Syria. Finally, much reporting on the scope and nature of violence directly affecting health service delivery in complex security environments is generated by organizations working in those environments (Abu Sa'Da et al., 2013). Over the past decade, organizational initiatives to collect data on incidents of violence against health workers have increasingly become more systematic in their approaches and within the research community, there are promising new initiatives for data collection (Footer, K. H.,

Meyer, S., Sherman, S.G & Rubenstein, L, 2014). For example, there has been more attention paid to gathering data on national and locally-employed staff who bear the brunt of violence, as opposed to international, expatriate staff.

Although the knowledge base has grown, there remain significant gaps in data collection and analysis (Abu Sa'Da et al., 2013; Footer et al., 2014), namely that there is currently no global-level, health-specific data set the issue. As a result, it can be difficult to uncouple data on health service delivery from that of humanitarian work more broadly. Relatedly, the lack of accessible, comparable data on demographic elements like gender, and social factors, such as perpetrator motives, limits analysis on the drivers of violence, thus limiting the ability to reduce or prevent violence impacting health service delivery. These knowledge gaps are considered in the following sections.

#### *Lack of health-specific data*

According to Humanitarian Outcomes' Aid Worker Security Database (AWSD), there were 251 individual attacks in 2013 affecting 460 humanitarian aid workers (including health workers) – the highest number since data collection began in 1997 (Harmer, Stoddard & Ryou, 2014). The AWSD is a very comprehensive undertaking but it does not disaggregate incident data in a way that allows researchers to decouple healthcare-specific incidents from those impacting other types of aid work. Neither does Insecurity Insight's Security in Numbers Database (SiND), another commonly cited source, disaggregate its incident data by aid sub-sector or service type. The lack of health-specific data is further complicated by limitations in other kinds of disaggregation. For example, the incident data are rarely disaggregated by the victim's job description or title.

Conclusions on violence in the healthcare setting are limited and it is difficult to examine whether or not certain sectors of aid work, such as health, are more dangerous than others. This has consequences for analyzing the drivers of violence. Within humanitarian communities and the media, and, to a lesser extent, within some sectors of academia, portrayals of violence directly affecting health service delivery in complex security environments often accentuate nebulous, macro-level factors such as the ‘shrinking humanitarian space,’ the ‘militarization of aid’ or the ‘changing nature of conflict’ (Fast, 2014; Irwin, 2014). Although these grand narratives are contested within much of the literature (Newman, 2011; Brassard-Bourdreau & Hubert, 2010), they have impacted research frameworks, pushing analysis toward a broader, humanitarian perspective rather than a health sector-specific assessment, which has left health-specific drivers of violence against health workers, facilities and transportation largely underexplored.

The health specific drivers cannot be neglected because violence directly affecting health service delivery is universal. In Sweden, a country that has not experienced conflict for over two centuries, (arguably) the longest unbroken peace in the world, sixty per cent of reports about workplace threats and violence come the health and care sector (Hallberg 2011), and globally the World Health Organization (WHO) estimates that globally up to 38% of health workers experience physical violence at some point during their careers, with many more subject to verbal and psychological abuse (WHO, n.d). This suggests that there exist universal drivers independent of conflict, but that these drivers may also be exacerbated by conflict, hence a need for

both a health-sensitive approach to studying the issue, along with a comparison between health and other types of humanitarian aid.

Within medical anthropology and sociology, violence is seen a social phenomenon that is culturally structured and interpreted, and the human body can serve as a site of contestation, where various types of power relations play out at individual-, community-, state- and global-level levels (Spencer, 2002). Within the healthcare setting, social and cultural norms, the construction of risk (Douglas, 2004; Douglas, 2013), patient-provider relations (Anderson & Helm, 1979; Kleinman, 1981), and overall public trust in government and the health system, particularly in post-colonial contexts (Vaughan, 1991; Comaroff & Comaroff, 1992), all influence violence. That is, by looking at phenomenological, social and structural factors and by drawing upon Michel Foucault's notions of biopower and biopolitics, in the health care setting one finds tensions between the individual, family, government and health providers over control of decisions about treatment and, quite literally, control of one's body, as well as over that of the community or societal responses. These factors can lead to situations of mistrust, often between the government and individuals and communities.

For example, attacks against Ebola response teams in Guinea should not be understood simply as due to 'cultural difference around funeral practices' Rather, Fairhead (2015) has demonstrated that the fact that Ebola Treatment Centres (ETCs) were not organized to take into account local care practices and funeral rites, was only one part of the issue. The outbreak took place within a historical and contemporary context of neoliberal exploitation, in which the French colonial powers -- and later the government in Conarky, international mining interests, and land grabs had led to

exploitation of local communities. In this setting, “white” people, and western educated Guineans were seen as “sorcerers,” and this led to the belief that Ebola had been introduced to further gain power over local resources. Ebola response worked through the government, and provided another example of outsiders taking control; and there was a failure on the part of Ebola workers to understand the significance of the historical and biopolitical context (Fairhead, 2015).

In other examples, mistrust of health facilities or a lack of respect between providers and patients, such as parts of northern Nigeria and northwest Pakistan, conspiracy theories have been used to justify boycotts against polio vaccination drives and even violence against vaccinators (Larson, H. J., Cooper, L. Z., Eskola, J., Katz, S. L. & Ratzan, S. , 2011; S., Hassan, S. Q. & Sakurada, S.2014).

Violence affecting health service delivery, can further be seen as an example of biopolitics in that the parties to conflict can assert power by controlling access to health services (Abu Sa'Da et al., 2013). This is the case currently in Syria currently: by deliberately attacking health facilities, government forces aim to gain military advantage by depriving anti-Government armed groups and their perceived supporters of medical care (Human Rights Council, 2015).

On an individual level, disagreements over treatment can arise when there are competing ideas about the cause and most appropriate treatment of disease. The weak and sometimes non-functioning health systems that often characterize complex security environments can compound these challenges and contribute to a milieu of mistrust that sets the stage for violence against health workers, facilities and transportation. These drivers, which are specific to quality of care, were noted by two



interview participants:

*“We are working in conflict areas where the normality of relationship between people is completely destroyed and it’s very frequent as well that civilians themselves attack the health care professionals or the health clinics because they are completely discontent, they are not happy, with the poor level of care and so on ... it is very difficult for example for a father to understand why a health worker or doctor will not be able to provide this type of drug or give this type of treatment to the child because they do not have the means or whatever.” (Interview 6)*

*“A lot of security incidents in for example, Country X, can be traced back to bad quality of care. That in combination with user fees is a trigger for violence, definitely. So if local people have to pay for “shitty” quality medical care, it’s a risk for security incidents.” (Interview 7)*

Workshop participants also noted examples of violence linked to situations where the medical treatment provided has not met patients’ expectations or was unsatisfactory in other ways. In settings of conflict or unrest, there are few, if any mechanisms, to seek compensation or file a complaint and violence may be perceived to be the only recourse.

That the type of aid provision is not disaggregated risks a focus on conflict-related and/or macro-level, geopolitical explanations of violence directly affecting health service delivery, rather than examining the interplay between these macro-level factors and health-specific factors.

*Lack of accessible and comparable data*

Most organizations have their own definitions and categories for reporting incidents, which makes comparative research difficult. For instance, there are discrepancies in the categories of health workers – e.g. doctors, nurses, interpreters, and ambulance drivers – and of health facilities and types of transportation. There are also categories of health workers who are often outside the remit of organizational reporting. For instance, in the past, reporting was skewed towards international, expatriate aid workers and the experiences of local and national staff were neglected; according to workshop participants this is rapidly changing for the better. There is also very little research on violence towards practitioners of so-called ‘traditional’ or ‘indigenous’ medicine.

There are also often inconsistencies in the categories used to describe perpetrators – e.g. terrorist, state actors, non-state actor – and these categories have legal ramifications under both International Humanitarian Law and in national legal frameworks.

Although a standardizing of terminology and scope of study would be welcome, this has proven difficult. Workshop participants noted that it can be difficult to come to internal agreement about the format of a database, let alone working with other organizations; although organizations coordinate, they have their own priorities and agendas that drive data collection.

Quantifying attacks is also difficult because incident reporting is highly dependent on how individuals and organizations perceive risk and differentiate between ‘everyday violence’ and incidents serious enough to report. Likewise, it can be difficult to differentiate between a targeted attack on a health worker or facility and violent

incidents not explicitly or directly related to health service delivery. People also do not report violence because they fear reprisals, there is not guarantee that it will be taken seriously, and at times violence is committed by other staff.

Because reporting often focuses on the most serious attacks, such as kidnapping and fatalities, workshop participants stressed that incidents perceived to be less severe, such as threats and obstructions, are more likely to be underreported. For this reason it is important to better understand the impact of perceived threats. For example, if an employee at a clinic receives a bomb threat via text message but a bomb is never set off, should the incident be counted as a general threat or as a potential bombing? Or is it not recorded as an incident at all? If individuals do not come to work because of perceived threats, is this documented? In terms of managing risk, it is important to understand the proportion of threats that do not materialize and how individuals and organizations assess these risks.

Finally, due to emotional distress and the existence of certain legal consequences and social norms, it is very difficult to collect reliable data on sexual violence against health workers: Victims may be hesitant to come forward because of fears that they will not be taken seriously or that by reporting the attack as sexual it may become obvious who was the victim is and may lead to stigmatization and/or further violence from perpetrators, relatives and colleagues (Wall, 2015). For these reasons, when victims do come forward, they sometimes misrepresent the nature of the attacks, which are often recorded as non-sexual.

Although most large organizations have good informal and formal relationships to discuss violence against healthcare and solutions, they are often reticent to publically share data on violence against staff for a variety of reasons, including reputational

risks, the desire to protect the confidentiality of victims and fear of reprisals by host governments, such as expulsion from a country. For example, as part of its Health Care in Danger project, the ICRC gathers data on incidents but does not disclose the name of countries due to political sensitivity, nor does it identify perpetrators (e.g. naming a specific armed group). This limits the extent to which the ICRC and other humanitarian organizations can benefit from one another's data collection mechanisms and, by extension, their ability to perform more exhaustive global and contextual analysis of violence against health service delivery. In spite of data sharing restrictions, there has been increased methodological sharing, including institutional definitions and categories, which will probably increase the pool of comparable data going forward.

In 2012, World Health Assembly Resolution WHA65.20 considered the 'need of systematic data collection on attacks or lack of respect for patients and/or health workers, facilities and transports in complex humanitarian emergencies' and mandated the WHO to:

*“provide leadership at the global level in developing methods for systematic collection and dissemination of data on attacks on health facilities, health workers, health vehicles, and patients in complex humanitarian emergencies, in coordination with other relevant United Nations bodies, other relevant actors, and intergovernmental and nongovernmental organizations, avoiding duplication of efforts.”*

Coming out of this mandate, the WHO is currently finalizing field testing of methodology and tools to gather data on attacks, which should be available in early 2016; they are also establishing a repository for reports from government, media, NGO and other sources.

#### *Lack of gender data*

The low incidence of gender-sensitive data collection and an overall lack of gender and age disaggregated data (for victims and perpetrators) has resulted in a knowledge gap surrounding the different experiences of and risks experienced by men and women (Fast & Wille, 2011; Brooks, 2015; Cadesky, 2015). In the AWS and SiND, the victim's gender is missing in from over 40% of reports (Fast & Wille, 2011; Brooks, 2015). Uncertainty about the gender of victims and perpetrators prevents a complete analysis of the potential motivations of violence. In most settings, nurses are more likely to be women, however, due to a lack of gender-disaggregated data, there is no way to investigate the extent to which they are targeted due to their role (nurse) or gender (woman).

According to workshop participants, in some cases the lack of gender-disaggregated data may be partly due to attempts to protect the confidentiality of victims. For instance, there is a low proportion of women workers in some locations and roles, so an individual could foreseeably be identified in an incident report. Participants also suggested, though, that individuals responsible for reporting may be uninterested in or unaware of the importance of gender-sensitive data collection. English-language reporting may be another source of blame, as gender is not revealed through its grammatical structures (Fast & Wille, 2011).

Understanding the relationship between gender and risk has practical ramifications for

staffing and security policies. For example, it has been suggested that men are more likely to be attacked on the road and in rural environments whereas women are more likely to be attacked in compounds and in urban environments (Harmer, Stoddard & Ryou, 2014). Although this may be an outcome of staffing – in some cases, men may be more likely to be travelling –it may be indicative of gender differences in the risk of violence. An increased focus on gender-sensitive data collection and analysis would better inform an organization’s operational choices. In addition to gender, workshop discussions considered the importance of researching other demographic categories (i.e. disability, race, ethnicity and religion) and the intersection of these.

#### *Lack of data on perpetrators*

Commonly reported drivers of violence in non-humanitarian settings include emotional stress, feel of ‘loss of control’, intoxication, mental illness, anxiety and long waiting times (Boyle, M., Koritsas, S., Coles, J., & Stanley, J., 2007). The role these drivers play in healthcare settings within complex security environments—or in humanitarian settings more broadly—is unclear, as there is a much smaller body of evidence on micro-level drivers. This may partly result from the dominance of macro-level frameworks, such as the changing nature of warfare, the shrinking humanitarian space and the politicization of aid (Fast, 2014; Irwin, 2014), which shifts focus away from micro- and meso-level drivers, such as quality of healthcare, as discussed above, or economic factors, the availability of small arms and light weapons, and interpersonal disputes. One interview participant suggested that this wider discourse shifts focus to armed groups, neglecting an examination of civilians as perpetrators of violence (Interview 6).

Although workshop participants overwhelming stressed the role of microlevel factors,

they also discussed notable counter-examples, such as Syria, in which targeted attacks are a strategy of the government. According to the United Nation's Human Rights Council, the health care system in Syria has been systematically targeted by government forces, including the persecution of health personnel who treat anyone perceived to oppose the government. This has led to a situation in which hospitals and other facilities operating outside of government-held areas no longer mark their building with the Red Cross or Red Crescent emblem as it has become a target for government forces. So-called ISIS and anti-government armed groups have also been documented to targeted health workers and facilities (Human Rights Council, 2015; see also Amon, J. et al., 2015). Other recent examples that point to macrolevel geopolitical factors include the United States-led airstrike on the MSF hospital in Kunduz, Afghanistan in (MSF, 2015) and repeated airstrikes carried out by the Saudi-led coalition on health facilities in Yemen (Hawkins, 2016).

Typically, perpetrators have complex and even compound motives for committing violence. In one example, a disgruntled employee attacked a health facility over a labor dispute but used political language as a reason for the attack. Other examples provided were individuals who commit violence for financial gain (especially in kidnappings) or patients and families dissatisfied with treatment who cite political or ideological grounds for their attacks. Additionally, complex security environments are, by their very nature, challenging:

*“We work in areas where crime is endemic, in areas which are by definition under-developed suffering from extreme levels of poverty, so there would be an underlying presence of criminal activities, gangs and organizations. In that situation [our organization] could be a target – or even a deliberate target –*

*because they will be seen as a foreign organization and therefore perhaps a wealthy organization, but also by simply being in that environment, as staff are subject to the risk of crime. Important to note that some risks of criminality derives from emergencies, e.g. in the aftermath of a natural disaster or in a conflict setting, people who are not criminal by nature, will be pushed and forced to act in ways for their own survival. Desperate people who may steal from a hospital to get medicines or steal from shops to get food, but driven given the desperateness of their circumstances ... In these settings, staff will be at risk of being attacked, having assets stolen, assets looted etc. because of the desperateness of the situation.” (Interview 3)*

One reason there may be so little data on perpetrator motives could be that the latter is dependent upon victims and witnesses’ subjective accounts. This is partly due to researchers’ inability to access perpetrators in many cases. Using social media or interviews with past members of violent groups can facilitate the study of perpetrators without working directly with them. From the standpoint of an aid organization, understanding the viewpoints of perpetrators often comes from on-going dialogue with communities and also with armed groups – both state and non- state – which take place in order to negotiate access to communities in need.

For example, workshop participants suggested that in some cases armed groups might feel they needed to kidnap a doctor in order to receive care; or perhaps soldiers at a checkpoint are concerned that an ambulance may contain explosives and obstruct the delivery of health services in order to prevent a bombing. As one interview participant noted:



*“Possibly [ambulances] are [being used to move weapons around] and that that’s making genuine ambulances a target ... So just in terms of improper use of ambulances, we know it goes on and I think it probably has gone on in lots of other places and of course it leads to targeting of the ambulances.”*  
(Interview 5)

Overall, it is important to understand the perspectives of perpetrators in order to find solutions that enable effective delivery of health services. A greater focus on the perpetrator’s point of view is necessary to understand the interplay amongst ideological, social, economic, religious and historical motives. With regard to government groups, this understanding requires closer study of military doctrine and local notions of morality and immorality amongst non-state armed groups. Together with an understanding of how access to weapons impacts violence, better understanding perpetrator motivations could significantly improve prevention measures and decrease the impact of attacks on health service delivery.

#### *Ethical considerations*

Finally, there are ethical challenges to gathering more data and disseminating research. These range from the universal, such as ensuring that research does not inadvertently do harm, addressing concerns over patient confidentiality and appropriately sharing the findings with research participants, to concerns specific to research in complex security environments (Bourgois, 1990; Ford et al., 2009; Curry, D. R., Caplan, A. L., & Waldman, R. J., 2014). For instance, workshop participants noted that when state-based actors have been responsible for violence against health workers, it is not always appropriate to seek ethics approval from governmental

research councils for studies associated with the attacks; while carrying out research without the appropriate approvals may not be possible. In these settings, researchers must also protect their sources and ensure that state-based actors do not use the research findings to harm individuals who have taken part in the study.

Results also need to be communicated in a way that anticipates consequences, namely how different media outlets may portray the research: Misguided dissemination could lead to an organization's expulsion from a country or retaliatory violence. In a different way, increased data and analysis could lead to operational decisions that affect the delivery of aid, such as a decreased willingness to stay in complex security environments and an increased reliance on local partners, thus transferring the risk to them. Finally, a focus on incidents affecting staff and facilities could lead to what Fast has called 'aid worker exceptionalism', rather than focus on strengthening the overall protection of civilians through a beneficiary orientation (Fast, 2014). An increased 'bunkerization' of aid – in which aid workers live and work behind checkpoint and barriers – can also alienate the local population, counter-intuitively diminishing security (Eckroth, 2010).

## **Discussion**

Using human rights reports, Rubenstein and Bittle (2010) examined 'interference with and assaults on patients and medical functions, and the misuse of the medical emblem' in active armed conflicts from 1989-2008, finding inconsistencies in documentation, a lack of descriptive data on the nature of the attack, perpetrator and wider circumstances (Rubenstein & Bittle, 2010). Unfortunately, as this paper highlights, five years later significant gaps remain in our understanding of violence

directly affecting health service delivery in complex security environments. Not only is more research needed on the scope of nature of violence, but there also is need for a systematic analysis of the immediate and longer- term impact of violence, on populations served during conflict, as well as providers of health care. On a facility or organisational level, there are questions of what leads to a decision to cease operations: do many small incidents lead to a tipping point or is it one or two larger incidents? There is also a need to study how violence affects the internal workings of aid organizations, from field to headquarters. On a broader scale, more is needed to quantify the impact on violence on health service delivery and the ramifications for the populations served.

Although flawed, grand narratives are not completely useless as explanatory factors and in some cases, such as Syria, they may be the dominant ones. For example, in their review of human rights reports, Rubenstein and Bittle (2010) found that attacks towards civilians, including health personnel, can be used to achieve political and military objectives, and that there are documented situations in which health workers have been tortured or executed for providing services to enemy combatants (Rubenstein & Bittle, 2010). Similarly, the criminalization of health service delivery has been well-documented in cases, when, for example health workers have been accused of and, killed for “supporting terrorists” by providing treatment to the wounded (Abu Sa'Da et al., 2013; Amon, J. et al., 2015). Similarly, recent airstrikes on health facilities in Yemen and Afghanistan are indicative of a shrinking humanitarian space.

Workshop and interview participants also mentioned tangible examples of the changing nature of the humanitarian space, such as an increase in the number of humanitarian actors, aid agencies' increasing willingness to deliver aid in insecure environments, and the rise of Islamic State as a 'game changer' in aid delivery. However, these grand narratives should be supported by a more nuanced, evidence-based analysis of micro-level drivers that can be used to inform policies and practices on the ground.

Conversely, with few exceptions (di Martino, 2002), current research on the drivers of violence perpetuates the divide between scholarship in humanitarian and non-humanitarian crises. Analytically, this matters for several reasons. Firstly, it orients the research focus towards conflict and security-related explanations. This, in turn, may neglect violence in other environments which may not be categorized as humanitarian crises but do have high levels of general violence or insecurity, such as parts of South and Central America and certain urban settings. (Abu Sa'Da et al., 2013). It can also neglect the different experiences of local health workers. For example, staff who are employed in a state-run hospital before a conflict breaks out may not be counted as victims of violence in the same way that international aid workers who come in during the conflict are. It also can neglect drivers of violence that are specifically related to health service delivery, such as patient-provider relationships, or broader manifestations of bio-politics.

## **Conclusions**

Key challenges in addressing violence affecting health service delivery in complex security environments include a lack of health-specific, accessible and comparable,

gender-disaggregated data and sufficient data on perpetrator motives. There also is a need for the systematic analysis of the immediate and longer- term impact of violence on health service delivery.

This article suggest several options for increasing the evidence base. First, increased collaboration in data collection and data sharing is essential, both between academics, human rights NGOs and organizations delivering health services and among representatives of the latter group. As part of this, aid organizations could do more to make their anonymized data public in order to support global responses on prevention and accountability. At a global level, the WHO as a key role to play, not only for data collection but also in supporting Member States to develop preventative measures, in as reaffirmed in United Nations General Assembly Resolution 69/132.

Secondly, although operational research is invaluable in advocacy efforts and can support change internal policies, it may not be as methodologically and theoretically rigorous as academic research. At the same time, academic research is often communicated in a format that fails to address the critical policy issues facing aid organizations. One solution is to a need to embed a research component into aid operations through secondments and other working arrangements that facilitate collaboration between researchers and practitioners. This also suggests a need for increased training of health workers and law enforcement officials responsible for reporting incidents on the importance of different levels of disaggregation to the understanding of risk; and this training should aim to increase the quality and detail of reports. In the same vein, training among health workers and patients in complex security about the importance of reporting attacks and different reporting fora may

reduce the number of incidents that go unreported and the accuracy and completeness of those which are reported.

Lastly, increased dialogue is needed with funding organizations, both academic funders and aid donors, on the value of supporting collaborations between academic researchers and health workers operating in complex security environments. Such arrangements can strengthen the existing knowledge base and, in turn, support organizations in effectively managing the security of their staff and facilities and delivering health services.

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